



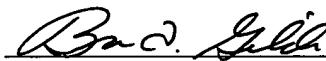
## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No: 10/696,016  
Date Filed: October 29, 2003  
Application Title: Methods, Compositions And Libraries Pertaining To PNA  
Dimer and PNA Oligomer Synthesis  
Applicants: Casale et al.  
Group Art Unit: Unknown  
Examiner: Unknown  
Certified Mail No: 7099 3400 0007 5728 4357

---

**Certificate of Mailing Pursuant to:**  
**37 C.F.R. §1.8**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to:  
Commissioner for Patents, Washington, DC 20231 on this 5<sup>th</sup> day of March 2004.



Brian D. Gildea  
Reg. No. 39,995

---

Commissioner for Patents  
Dear Sir or Madam:

Information Disclosure Statement

In accordance with 37 C.F.R. § 1.97, Applicant(s) hereby make of record the following information and publications. Copies of PTO Form 1449 and each publication listed thereon [INCLUDE REFERENCE CODE, E.G., (U.S. PATENTS: AA through AZ); (BA - BZ FOREIGN PATENTS) &/OR (CA - CZ JOURNAL ARTICLES ETC.)] accompany this statement, either in the entirety or in the relevant parts.

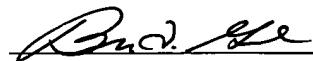
Fee Under 37 C.F.R. § 1.97(b)

Since this correspondence is being mailed within three months of the filing date or before receipt of the first Office Action on the merits, it is believed that no fee is due to The Office for the consideration of this paper. If however, The Office determines that a

fee is due for the proper consideration of this paper, The Office is authorized to deduct the appropriate fee from Deposit Account No. 02-3240.

Respectfully submitted,

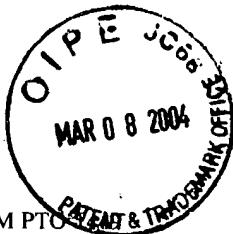
Date: March 5, 2004



Brian D. Gildea  
Reg. No. 39,995

Applied Biosystems  
15 DeAngelo Drive  
Bedford, MA 01730

phone 781-280-2824  
fax 781-280-2940



FORM PTO-94

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.: BP0206US-CN1

APPLICANT: Casale et. al.

SERIAL NO.: 10/696,016

FILING DATE: 10/29/03

GROUP:

US PATENT DOCUMENTS

EXAM. INIT.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
AA	4,415,732	Nov. 15, 1983	Caruthers et al.	536	27	Mar. 27, 1981
AB	4,458,066	July 3, 1984	Caruthers et al.	536	27	Mar. 24, 1981
AC	4,500,707	Feb. 19, 1985	Caruthers et al.	536	27	Mar. 16, 1982
AD	4,659,774	April 21, 1987	Webb et al.	525	54.2	Nov. 1, 1985
AE	4,725,677	Feb. 16, 1988	Köster et al.	536	27	Aug. 10, 1984
AF	4,786,724	Nov. 22, 1988	Letsinger	536	27	July 25, 1985
AG	4,923,901	May 8, 1990	Koester et al.	521	53	Sep. 4, 1987
AH	4,980,460	Dec. 25, 1990	Molko et al.	536	23	Mar. 30, 1987
AI	5,047,524	Sep. 10, 1991	Andrus et al.	536	27	Dec. 21, 1988
AJ	5,071,974	Dec. 10, 1991	Groody	536	27	Oct. 31, 1986
AK	5,112,962	May 12, 1992	Letsinger et al.	536	27	Nov. 9, 1990
AL	5,164,491	Nov. 17, 1992	Froehler et al.	536	27	June 15, 1989
AM	5,175,209	Dec. 29, 1992	Beattie et al.	525	54.11	Jan. 31, 1991
AN	5,188,934	Feb. 23, 1993	Menchen et al.	435	6	Nov. 14, 1989
AO	5,198,540	Mar. 30, 1993	Koster	536	25.3	June 25, 1984
AP	5,204,455	April 20, 1993	Froehler et al.	536	22.1	Feb. 10, 1992
AQ	5,204,456	April 20, 1993	Molko et al.	536	25.33	Sept. 20, 1990
AR	5,218,103	June 8, 1993	Caruthers et al.	536	25.33	Jan. 22, 1991
AS	5,243,038	Sept. 7, 1993	Ferrari et al.	536	2301	Oct. 29, 1987
AT	5,262,530	Nov. 16, 1993	Andrus et al.	536	25.31	July 27, 1990
AU	5,278,302	Jan. 11, 1994	Caruthers et al.	536	24.5	Nov. 18, 1991
AV	5,281,701	Jan. 25, 1994	Vinayak	536	25.34	July 12, 1991
AW	5,348,868	Sept. 20, 1994	Reddy et al.	435	91.1	April 24, 1992
AX	5,366,860	Nov. 22, 1994	Bergot et al.	435	6	Sept. 29, 1989
AY	5,380,833	Jan. 10, 1995	Urdea	536	22.1	Dec. 13, 1991
AZ	5,391,667	Feb. 21, 1995	Dellinger	526	264	Mar. 4, 1993
AAA	5,391,723	Feb. 21, 1995	Priest	536	23.1	Feb. 16, 1993
AAB	5,419,966	May 30, 1995	Reed et al.	428	406	July 12, 1993
AAC	5,446,137	Aug. 29, 1995	Maag et al.	536	23.1	Dec. 9, 1993
AAD	5,453,496	Sept. 26, 1995	Caruthers et. al.	536	24.5	Oct. 15, 1993
AAE	5,476,925	Dec. 19, 1995	Letsinger et al.	536	23.1	Jan. 23, 1995
AAF	5,539,082	July 23, 1996	Nielsen et al.	530	300	April 26, 1993
AAG	5,527,675	June 18, 1996	Coull et al.	435	6	Aug. 20, 1993
AAH	5,623,049	April 22, 1997	Löbberding et al.	530	300	Sep. 6, 1994
AAI	5,714,331	Feb. 3, 1998	Buchardt et al.	435	6	Jul. 24, 1996
AAJ	5,736,336	April 7, 1998	Buchardt et al.	435	6	May 1, 1997
AAK	5,766,855	June 16, 1998	Buchardt et al.	435	6	July 24, 1996
AAL	5,773,571	June 30, 1998	Nielsen et al	530	300	Feb. 1, 1996
AAM	5,786,461	July 28, 1998	Buchardt et al.	536	18.7	May 1, 1997
AAN	5,837,459	Nov. 17, 1998	Berg et al.	435	6	May 24, 1996
AAO	5,847,162	Dec. 8, 1998	Lee et al.	549	227	June 27, 1996
AAP	5,891,625	April 6, 1999	Buchardt et al.	435	6	June 7, 1993
AAQ	5,936,087	Aug. 10, 1999	Benson et al.	546	33	Nov. 25, 1997
AAR	5,972,610	Oct. 26, 1999	Buchardt et al.	435	6	Oct. 8, 1997

	AAS	5,986,053	Oct. 26, 1999	Buchardt et al.	435	6	Oct. 8, 1997
	AAT	6,008,379	Dec. 28, 1999	Benson et al.	549	224	Oct. 1, 1997
	AAU	6,020,481	Feb. 1, 2000	Benson et al.	536	26.6	April 1, 1996
	AAV	6,027,893	Feb 22, 2000	Ørum et al.	435	6	Dec. 18, 1997
	AAW	6,051,719	April 18, 2000	Benson et al.	548	416	Nov. 17, 1998
	AAX	6,063,569	May 16, 2000	Gildea et al.	435	6	Aug. 11, 1997
	AAY	6,080,868	June 27, 2000	Lee et al.	548	100	Jan. 23, 1998
	AAZ	6,107,470	Aug. 22, 2000	Nielsen et al.	536	23.1	Jan. 4, 1999
	ABA	6,110,676	Aug. 29, 2000	Coull, et al.	435	6	Nov. 3, 1997
	ABB	6,117,986	Sept. 12, 2000	Nardone et al.	534	727	June 10, 1998
	ABC	6,140,500	Oct. 31, 2000	Yan et al.	544	99	Sept. 3, 1999
	ABD	6,191,278	Feb. 20, 2001	Lee et al.	546	41	Nov. 3, 1999
	ABE	6,201,103	Mar. 13, 2001	Nielsen et al.	530	300	Dec. 10, 1998
	ABF	6,228,982	May 8, 2001	Norden et al.	530	300	July 2, 1993
	ABG	6,248,884	June 19, 2001	Lam et al.	544	59	June 3, 1999
	ABH	6,280,964	Aug. 28, 2001	Kavanaugh et al.	435	7.8	April 14, 1995
	ABI	6,355,421	Mar. 12, 2002	Coull et al.	435	6	Oct. 27, 1998
	ABJ	6,357,163	Mar. 19, 2002	Buchardt et al.	43	6	May 22, 1992
	ABK	6,361,942	Mar. 26, 2002	Coull et al.	435	6	Mar. 24, 1999
	ABL	6,441,152	Aug. 27, 2002	Johansen et al.	536	23.1	Dec. 8, 1999

FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES   NO
	BA	WO96/04000	Feb. 15, 1996	WIPO			
	BB	WO96/40709	Dec. 19, 1996	WIPO			
	BC	WO97/45539	Dec. 4, 1997	WIPO			
	BD	WO99/21881	May 6, 1999	WIPO			
	BE	WO99/49293	Sept. 30, 1999	WIPO			
	BF	WO01/31063	May 3, 2001	WIPO			
	CA	Altmann, K., et al, " Polyamide Based Nucleic Acid Analogs- Synthesis of d-Amino Acids With Nucleic Acid Bases Bearing Side Chains". <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , 7, 1119-1122 (1997)					
	CB	Cantin, M. et al, "Synthesis Of The Monomeric Building Blocks of Z-Olefinic PNA (Z-OPA) Containing The Bases Adenine And Thymine". <i>Tett. Lett.</i> , 38, 4211-4214 (1997)					
	CC	Ciapetti, P. et al, " Synthesis of N-Fmoc-a-Amino Acids Carrying The Four DNA Nucleobases In The Side Chain". <i>Tetrahedron</i> , 53, 1167-1176 (1997)					
	CD	Diderichsen, U. et al, " Alanyl-PNA Oligomers: A New System For Identification". <i>Bioorganic &amp; Med. Chem. Lett.</i> , 7, 1743-1746 (1997)					
	CE	Diderichsen, U. et al, "Alanyl-PNA Homoduplex: A-T Pairig With The N7-Regioisomer Of Adenine". <i>Bioorganic &amp; Med. Chem. Lett.</i> , 8, 165-168 (1998)					
	CF	Diderichsen, U. et al, "Self-Pairing PNA With Alternating Alanyl/Homoalanyl Backbone". <i>Tett. Lett.</i> , 37, 475-478 (1996)					
	CG	Fujii, M. et al, "Nucleic Acid Analog Peptide (NAAP) 2. Synthesis And Properties Of Novel DNA Analog Peptides Containing Nucleobase Linked $\beta$ -Aminoalanine". <i>Bioorg. Med. Chem. Lett.</i> , 7, 637-627 (1997)					
	CH	Garman, A.J., "Non-Radioactive Labeling, A Practical Introduction". <i>Academic Press</i> , San Diego, CA (1997)					
	CI	Gildea, B. et al, "PNA Solubility Enhancers". <i>Tett. Lett.</i> , 39, 7255-7258 (1988)					
	CJ	Haaima, G. et al, "Peptide Nucleic Acids (PNAs) Containing Thymine Monomers Derived From Chiral Amino Acids: Hybridization And Solubility Properties Of D-Lysine PNA". <i>Angew. Chem Int. Ed. Engl</i> , 35, 1939-1942					
	CK	Howarth, N. et al, "a-PNA: A Novel Peptide Nucleic Acid Analogue Of DNA". <i>J. Org. Chem</i> , 62, 5441-5450 (1997)					
	CL	Jordan, S. et al, " New Hetero-Oligomeric Peptide Nucleic Acids With Improved Binding Properties To Complementary DNA". <i>Bioorg. Med. Chem. Lett.</i> , 7, 687-690 (1997)					
	CM	Krotz, A. et al, "Synthesis of 'Retro-Inverso' Peptide Nucleic Acids: 2. Oligomerization And Stability". <i>Tett. Lett.</i> , 36, 6941-6944 (1995)					
	CN	Kumar, V. et al, " Pyrrolidine Nucleic Acids: DNA/PNA Oligomers With 2-Hydroxy/Aminomethyl- 4-(thymin-1-yl) Pyrrolidine-N-Acetic Acid". <i>Organic Letters</i> , 3 (9), 1269-1272 (2001)					
	CO	Lagriffoul, P. et al, " The Synthesis, Co-Oligomerization And Hybridization Of A Thymine-Thymine Heterodimer Containing PNA". <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , 4, 1081-1082 (1994)					

	CP	Lagriffoul, P. et al, "Peptide Nucleic Acids With A Conformationally Constrained Chiral Cyclohexyl-Derived Backbone". <i>Chem. Eur. J.</i> , <b>3</b> , 912-919 (1997)
	CQ	Lowe, G. et al, "Amino Acids Bearing Nucleobases For The Synthesis Of Novel Peptide Nucleic Acids". <i>J. Chem. Soc. Perkin Trans.</i> , <b>1</b> , 539-546 (1997)
	CR	Lowe, G. et al, "Dipeptides Bearing Nucleobases For The Synthesis Of Novel Peptide Nucleic Acids". <i>J. Chem. Soc. Perkin Trans.</i> , <b>11</b> , 547-554 (1997)
	CS	Lowe, G. et al, "Solid-Phase Synthesis Of Novel Peptide Nucleic Acids". <i>J. Chem. Soc. Perkin Trans.</i> , <b>11</b> , 555-560 (1997)
	CT	Petersen, K. et al, "Synthesis And Oligomerization of N <sup>d</sup> -Noc-N <sup>a</sup> -(thymine-1-ylacetyl)ornithine". <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , <b>6</b> , 793-796 (1996)
	CU	Seela, et al, <i>Nucl. Acids, Res.</i> , <b>28</b> , 3224-3232 (2000)
	CV	Thomson, S. et al, "Fmoc Mediated Synthesis of Peptide Nucleic Acids". <i>Tetradon</i> , <b>51</b> , 6179-6194 (1995)
	CW	Uhlmann, E. et al., "PNA: Synthetic Polyamide Nucleic Acids With Unusual Binding Properties". <i>Angew. Chem. Int. Ed.</i> <b>37</b> , 2796-2823 (1998)